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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,646	11/28/2000	Alan H. Gnauck	2000-0515A	4568
26652	7590	02/08/2005	EXAMINER	
AT&T CORP. P.O. BOX 4110 MIDDLETON, NJ 07748				CURS, NATHAN M
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	OK
	09/722,646	GNAUCK ET AL.	
	Examiner	Art Unit	
	Nathan Curs	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 12 October 2004.  
 2a) This action is FINAL.                                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1 and 4-29 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1 and 4-29 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 22 July 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
2. Claims 1, 4, 6-9, 12-14, 16, 17, 19, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260).

Regarding claim 1, Saito discloses a method for receiving an optical double sideband signal over an optical fiber system, comprising the steps of: splitting the received optical double sideband signal into an upper sideband signal and a lower sideband signal (paragraph 0008, lines 1-3); photodetecting said upper sideband and said lower sideband (paragraph 0008, lines 3-4); equalizing said photodetected upper sideband signal and said photodetected lower sideband signal (paragraph 0008, lines 4-6); and combining said equalized upper sideband signal with said equalized lower sideband signal (paragraph 0008, lines 6-7). Saito discloses equalizing the upper and lower sideband signals to compensate for waveform distortion, but does not disclose dispersion compensation. Naito et al. disclose a method for splitting a received signal into upper and lower sidebands so that dispersion can be compensated using equalizers for the upper and lower sidebands (page 12, lines 19-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to equalize the effects of dispersion using upper and lower sideband equalizers, as taught by Naito et al., applied to the

equalizers in the system of Saito, since dispersion is an inherent form of waveform distortion in optical transmission.

Regarding claim 4, Saito in view of Naito et al. disclose the method according to claim 1, further comprising the steps of: equalizing said dispersion compensated upper sideband signal and equalizing said dispersion compensated lower sideband signal (Saito: paragraph 0008, lines 4-6; Naito et al.: page 12, lines 19-23; and applied teaching in combination as described above).

Regarding claim 6, Saito in view of Naito et al. disclose the method according to claim 1, wherein said optical double sideband signal is amplitude modulated (Saito: paragraphs 0002 and 0003).

Regarding claim 7, Saito in view of Naito et al. disclose the method according to claim 1, wherein said dispersion compensating step of said photodetected upper sideband and dispersion compensating step of said photodetected lower sideband is performed concurrently (Saito: fig. 2, elements 4 and 5 and paragraph 0008, lines 4-6; Naito et al.: page 12, lines 19-23; and applied teaching in combination as described above).

Regarding claim 8, Saito in view of Naito et al. disclose the method according to claim 1, wherein said photodetection step of said upper sideband and said photodetection step of said lower sideband is performed concurrently (Saito: fig. 2, elements 2 and 3 and paragraph 0008).

Regarding claim 9, Saito in view of Naito et al. disclose the method according to claim 4, wherein said equalization step of said photodetected upper sideband and said equalization step of said photodetected lower sideband is performed concurrently (Saito: fig. 2, elements 4 and 5 and paragraph 0008).

Regarding claim 12, Saito in view of Naito et al. disclose the method according to claim 4, wherein a plurality of the photodetecting and equalizing steps of said upper sideband and a

plurality of the photodetecting and equalizing steps of said lower sideband are performed concurrently (Saito: fig. 2, elements 2 and 3 and elements 4 and 5 and paragraph 0008).

Regarding claim 13, Saito in view of Naito et al. disclose the method according to claim 4, wherein the photodetecting, dispersion compensating and equalizing steps of said upper sideband and the photodetecting, dispersion compensating and equalizing steps of said lower sideband are performed concurrently (Saito: fig. 2, elements 2 and 3 and elements 4 and 5 and paragraph 0008, lines 4-6; Naito et al.: page 12, lines 19-23; and applied teaching in combination as described above).

Regarding claim 14, Saito in view of Naito et al. disclose the method according to claim 1, wherein said combining step is a summation (Saito: fig. 2, element 6 and paragraph 0008, lines 6-7).

Regarding claim 16, Saito in view of Naito et al. disclose the method according to claim 1, wherein said combining step further comprises the steps of: delaying one sideband signal relative to the other sideband signal (Naito et al.: page 12, lines 19-23; and summing the two signals (Saito: fig. 2, element 6 and paragraph 0008, lines 6-7).

Regarding claim 17, Saito in view of Naito et al. disclose the method according to claim 1, wherein said combination step is selection of better output (Saito: fig. 2, element 6 and paragraph 0008, lines 6-7), where the resulting output is the full waveform equalized signal, thus a better signal than the unequalized input or the individually equalized sideband signal components.

Regarding claim 19, Saito in view of Naito et al. disclose the method according to claim 1, further comprising the step of filtering the optical signal (Saito: fig. 2, element 1 and paragraph 0014, lines 2-4).

Regarding claim 23, Saito discloses a method of receiving an optical double sideband signal, comprising the steps of receiving an optical double sideband signal (paragraphs 0006 and 0008); splitting said received optical double sideband signal using a splitter into two branches (fig. 2, element 1 and paragraph 0008, lines 1-3); concurrently processing the resulting two branches by applying a filter to each branch to produce a filtered upper sideband signal and a filtered lower sideband signal (fig. 2, element 1 and paragraph 0014, lines 2-4); concurrently applying a photodetector to said filtered upper sideband signal and to said filtered lower sideband signal to produce a photodetected upper sideband signal and a photodetected lower sideband signal (fig. 2, elements 2 and 3 and paragraph 0008, lines 3-4); equalizing said photodetected upper sideband signal and equalizing said photodetected lower sideband signal (fig. 2, elements 4 and 5 and paragraph 0008, lines 4-6); and combining said equalized upper sideband signal and said equalized lower sideband signal using a combiner to produce an output signal (fig. 2, element 6 and paragraph 0008, lines 6-7). Saito discloses equalizing the upper and lower sideband signals to compensate for waveform distortion, but does not disclose dispersion compensation. Naito et al. disclose a method for splitting a received signal into upper and lower sidebands so that dispersion can be compensated using equalizers for the upper and lower sidebands (page 12, lines 19-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to equalize the effects of dispersion using upper and lower sideband equalizers, as taught by Naito et al., applied to the equalizers in the system of Saito, since dispersion is an inherent form of waveform distortion in optical transmission.

Regarding claim 25, Saito in view of Naito et al. disclose the method according to claim 23, wherein said splitting step transmits an equal optical power to each branch (Saito: paragraph 0014), where it would have been obvious to one of ordinary skill in the art at the time

of the invention that dividing the frequency components of the signal into upper and lower sideband components, as taught by Saito, would comprise dividing the frequency components in half.

Regarding claim 26, Saito in view of Naito et al. disclose the method according to claim 25, where the signal is split using a Mach Zehnder mold (Saito: fig. 2, element 1 and paragraph 0014, lines 2-4), but do not explicitly disclose that said splitting step is performed using a 3dB splitter. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that the branching at the input of a Mach Zehnder mold is a 50/50 split of the signal, and that a 3 dB splitter, which is a very well known device in the art, could alternately be used to split the signal 50/50 in place of the Mach-Zehnder mold.

3. Claims 5, 15, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260) as applied to claims 1, 4, 6-9, 12-14, 16, 17, 19, 23, 25 and 26 above, and further in view of Kumar (US Published Patent Application No. US 2001/0050926).

Regarding claims 5 and 24, Saito in view of Naito et al. disclose the method according to claims 1 and 23, respectively, comprising said combining step, but do not disclose that said combining step is performed using a diversity combiner. Kumar discloses a receiver where upper and lower sideband signals are combined using a diversity combiner (fig. 9, element 241 and paragraphs 0180-0183) in order to be able to choose the between the best individual sideband signal or a combination of the two sideband signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a diversity combiner in the system of Saito so that the two sideband signals can be flexibly combined according to the

quality of each of the sideband signals, as taught by Kumar, which would provide greater options for producing the best quality signal than simply adding the two sideband signals in all cases as disclosed by Saito.

Regarding claim 15, Saito in view of Naito et al. disclose the method according to claim 1, comprising said combining step, but do not disclose that said combining step is a weighted summation. Kumar discloses a receiver where upper and lower sideband signals are combined using a diversity combiner (fig. 9, element 241 and paragraphs 0180-0183) in order to be able to choose the between the best individual sideband signal or a weighted combination of the two sideband signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a diversity combiner in the system of Saito so that the two sideband signals can be flexibly combined according to the quality of each of the sideband signals in a weighted combination, as taught by Kumar, which would provide greater options for producing the best quality signal than simply adding the two sideband signals in all cases as disclosed by Saito.

Regarding claim 18, Saito in view of Naito et al. disclose the method according to claim 1, comprising said combination step, but do not disclose that said combining step is based on link properties. Kumar discloses a receiver where upper and lower sideband signals are combined using a diversity combiner (fig. 9, element 241 and paragraphs 0180-0183) in order to be able to choose the between the best individual sideband signal or a weighted combination of the two sideband signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a diversity combiner in the system of Saito so that the two sideband signals can be flexibly combined according to the quality of each of the sideband signals in a weighted combination, as taught by Kumar, which would provide greater options for producing the best quality signal than simply adding the two sideband signals in all cases as disclosed by Saito. The signal quality of each the two sidebands received is a direct result of the link

properties of the transmission, thus a weighted combination of the two sideband signals directly represents a combination based on the link properties and their impact on each sideband.

4. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260) as applied to claims 1, 4, 6-9, 12-14, 16, 17, 19, 23, 25 and 26 above, and further in view of Duck et al. (US Patent No. 6040932).

Regarding claims 10 and 11, Saito in view of Naito et al. disclose the method according to claim 4, but do not disclose that the steps of photodetecting and equalizing said upper sideband and the steps of photodetecting and equalizing said lower sideband are performed serially. Duck et al. disclose an optical subsystem where an optical signal is split 50/50 and then the resulting two branches filtered according to wavelength (fig. 11a and col. 7, lines 31-35). Duck et al. also disclose an alternative subsystem where the 50/50 splitter (with 3 dB loss) is eliminated by using a circulator and filtering the optical signal serially (fig. 11b and col. 7, lines 36-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teaching of the serial configuration disclosed by Duck et al. to modify the branched optical subsystem of Saito where the signal is 50/50 split to the two sets of photodetectors and equalizers. This would provide the benefit of eliminating loss associated with splitting the signal in the system of Saito.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260) as applied to claims 1, 4,

6-9, 12-14, 16, 17, 19, 23, 25 and 26 above, and further in view of Sun et al. ("Tunable RF-power-fading compensation of multiple-channel double-sideband SCM transmission using a nonlinearly chirped FBG"; Sun et al.; Photonics Technology Letters, IEEE, Vol 12, Issue 5, May 2000, Pages 546-548).

Regarding claim 20, Saito in view of Naito et al. disclose the method according to claim 19, but do not disclose said filtering step is performed using a fiber Bragg grating (FBG). Sun et al. disclose using a tunable fiber bragg grating to compensate for dispersion in a double sideband system (page 546, Introduction section, col. 1, lines 1-14 and col. 2, lines 7-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to use fiber bragg grating dispersion compensators in the filter of the Saito receiver in order to provide tunable dispersion compensation for the upper and lower sidebands.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl) in view of Naito et al. (European Patent Office Publication No. 409260) as applied to claims 1, 4, 6-9, 12-14, 16, 17, 19, 23, 25 and 26 above, and further in view of Nielsen et al. (US Patent No. 6559988).

Regarding claims 20 and 21, Saito in view of Naito et al. disclose the method according to claim 19, but do not disclose said filtering step is performed using a fiber Bragg grating (FBG) or using a thin-film filter. Nielsen et al. disclose that FBGs and thin-film filters are well known in the art for filtering optical wavelengths (col. 1, lines 37-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an FBG or thin-filter filter for the wavelength filtering disclosed by Saito in the splitting of the signal into upper sideband and lower sideband signals.

7. Claims 22, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260), and further in view of Djupsjobacka (US Patent No. 6337756).

Regarding claim 22 Saito discloses a method for receiving a transmitted optical double sideband signal, comprising: splitting the received optical double sideband signal into an upper sideband signal and a lower sideband signal (paragraph 0008, lines 1-3); photodetecting said upper sideband and photodetecting said lower sideband (paragraph 0008, lines 3-4); equalizing said photodetected upper sideband signal and equalizing said photodetected lower sideband signal (paragraph 0008, lines 4-6) and combining said equalized upper sideband signal with said equalized lower sideband signal (paragraph 0008, lines 6-7). Saito discloses equalizing the upper and lower sideband signals to compensate for waveform distortion, but does not disclose dispersion compensation. Naito et al. disclose a method for splitting a received signal into upper and lower sidebands so that dispersion can be compensated using equalizers for the upper and lower sidebands (page 12, lines 19-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to equalize the effects of dispersion using upper and lower sideband equalizers, as taught by Naito et al., applied to the equalizers in the system of Saito, since dispersion is an inherent form of waveform distortion in optical transmission. Saito in view of Naito et al. do not disclose generating an optical double sideband signal, comprising the steps of: generating an optical carrier; sending said optical carrier to a modulator; concurrently encoding an input data signal to produce an encoded data signal; intensity modulating said fine encoded data signal to produce an optical double sideband signal; transmitting said optical double sideband signal over a fiber link. Djupsjobacka discloses

generating an optical double sideband signal, comprising the steps of: generating an optical carrier; sending said optical carrier to a modulator; concurrently encoding an input data signal to produce an encoded data signal; intensity modulating said fine encoded data signal to produce an optical double sideband signal; transmitting said optical double sideband signal over a fiber link (fig. 1 and col. 1, line 35 to col. 2, line 34). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a transmitter based on the teaching of the Djupsjobacka transmitter for the system of Saito, to transmit a double sideband signal, which is the transmission signal type disclosed for the system of Saito. Clearly a transmitter is inherent to the system of Saito, however, Saito does not explain the transmitter in detail.

Regarding claim 27, Saito discloses a method of receiving a transmitted optical double sideband signal, comprising: splitting said received optical double sideband signal using a splitter into two branches (fig. 2, element 1 and paragraph 0008, lines 1-3); concurrently processing the resulting two branches by applying a filter to each branch to produce a filtered upper sideband signal and a filtered lower sideband signal (fig. 2, element 1 and paragraph 0014, lines 2-4); concurrently applying a photodetector to said filtered upper sideband signal and to said filtered lower sideband signal to produce a photodetected upper sideband signal and a photodetected lower sideband signal (fig. 2, elements 2 and 3 and paragraph 0008, lines 3-4); equalizing said photodetected upper sideband signal and equalizing said photodetected lower sideband signal (fig. 2, elements 4 and 5 and paragraph 0008, lines 4-6); and combining said equalized upper sideband signal and said equalized lower sideband signal using a combiner to produce an output signal (fig. 2, element 6 and paragraph 0008, lines 6-7). Saito discloses equalizing the upper and lower sideband signals to compensate for waveform distortion, but does not disclose dispersion compensation. Naito et al. disclose a method for splitting a received signal into upper and lower sidebands so that dispersion can be compensated using

equalizers for the upper and lower sidebands (page 12, lines 19-23). It would have been obvious to one of ordinary skill in the art at the time of the invention to equalize the effects of dispersion using upper and lower sideband equalizers, as taught by Naito et al., applied to the equalizers in the system of Saito, since dispersion is an inherent form of waveform distortion in optical transmission. Saito in view of Naito et al. do not disclose generating an optical double sideband signal, comprising the steps of: generating an optical carrier; sending said optical carrier to a modulator; concurrently encoding an input data signal to produce an encoded data signal; intensity modulating said fine encoded data signal to produce an optical double sideband signal; transmitting said optical double sideband signal over a fiber link. Djupsjobacka discloses generating an optical double sideband signal, comprising the steps of: generating an optical carrier; sending said optical carrier to a modulator; concurrently encoding an input data signal to produce an encoded data signal; intensity modulating said fine encoded data signal to produce an optical double sideband signal; transmitting said optical double sideband signal over a fiber link (fig. 1 and col. 1, line 35 to col. 2, line 34). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a transmitter based on the teaching of the Djupsjobacka transmitter for the system of Saito, to transmit a double sideband signal, which is the transmission signal type disclosed for the system of Saito. Clearly a transmitter is inherent to the system of Saito, however, Saito does not explain the transmitter in detail.

Regarding claim 29, Saito in view of Naito et al. and further in view of Djupsjobacka disclose the method according to claim 22, where the signal is split using a Mach Zehnder mold (Saito: fig. 2, element 1 and paragraph 0014, lines 2-4), but do not explicitly disclose that said splitting step is performed using a 3dB splitter. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that the branching at the input of a Mach Zehnder mold is a 50/50 split of the signal, and that a 3 dB splitter, which is a very well known

device in the art, could alternately be used to split the signal 50/50 in place of the Mach-Zehnder mold.

8. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (Japanese Patent No. 405153052 – machine translation from [http://www.ipdl.jpo.go.jp/homepg\\_e.ipdl](http://www.ipdl.jpo.go.jp/homepg_e.ipdl)) in view of Naito et al. (European Patent Office Publication No. 409260), and further in view of Djupsjobacka (US Patent No. 6337756) as applied to claims 22, 27 and 29 above, and further in view of Kumar (US Published Patent Application No. US 2001/0050926).

Regarding claim 28, Saito in view of Naito et al. and further in view of Djupsjobacka, disclose the method according to claim 22, but do not disclose that said combining step is performed using a diversity combiner. Kumar discloses a receiver where upper and lower sideband signals are combined using a diversity combiner (fig. 9, element 241 and paragraphs 0180-0183) in order to be able to choose the between the best individual sideband signal or a combination of the two sideband signals. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a diversity combiner in the system of Saito so that the two sideband signals can be flexibly combined according to the quality of each of the sideband signals, as taught by Kumar, which would provide greater options for producing the best quality signal than simply adding the two sideband signals in all cases as disclosed by Saito.

#### ***Response to Arguments***

9. Applicant's arguments filed 12 October 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references don't teach compensating the upper and lower photodetected sidebands for PMD, a recitation of the intended use of the

claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The combination of Saito and Naito et al. provide a specific teaching of equalizing chromatic dispersion. However, the structure of the combination of Saito and Naito et al. is capable of performing PMD compensation since the Naito et al. teaching comprises polarization splitting of the received optical signal followed by delay equalization.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***

Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

*M. R. Sedighian*  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**